POLITEHNICA University of Bucharest (**UPB**)
Faculty of Engineering and Management of Technological Systems (**IMST**)
Study Programme: Industrial Engineering (**IE**)
Form of study: Licence (Bachelor)

COURSE SPECIFICATION

Course title:	General Chemistry	***Semester:***	1
Course code:	UPB.06.F.01.O.002	***Credits (ECTS):***	4

Course structure	Lecture	Seminar	Laboratory	Project	Total hours
Number of hours per week	2		2		4
Number of hours per semester	28		28		56

Lecturer	Lecture	Seminar / Laboratory / Project
Name, academic degree	S.l. dr. ing. Simona POPESCU	S.l. dr. ing. Simona POPESCU
Contact (email, location)	simona.popescu@upb.ro	L026, Str. Polizu nr. 1-7, Bucharest

Course description:

The general Chemistry course is structured in 5 chapters: 1.Chemical thermodynamics, 2. Chemical Kintetics, 3. Electrochemical processes, 4. Corrosion and 5.Chemistry of materials.
The aim of this course is:
- to acquire general knowledge of theoretical and applied Chemistry, strictly necessary to prepare an engineer for the specific field in which he will work;
- To understand the relationship between chemical structure of metallic or non-metallic materials, inorganic and organic, physical and chemical properties and their applications
- To introduce the main concepts and notions of General Chemistry participating in training engineers able to adapt to the market economy and new technologies.

Seminar / Laboratory / Project description:

The topics of the laboratory works follows the chapters of course content. The aim of the laboratory is to deepening knowledge taught in the course by performing various laboratory practical work. By numerical and experimental applications performed, the students learn the methods used in industrial practice, that are necessary for a future scientist and / or engineer well prepared.

Intended learning outcomes:

- Application of knowledge of the fundamental disciplines to conduct demonstrations and applications to solve specific technical industrial engineering;
- Development and use diagrams, structural diagrams, graphics and technical documents specific to Industrial Engineering
- Selection and use of knowledge, principles and methods of engineering sciences to solve specific tasks industrial engineering through graphical representation;

- Achieving professional tasks with exact identification of the objectives, available resources, requirements to complete their work stages, working time and deadlines for achievement.
- Responsible execution of workloads with multidisciplinary team taking different roles on hierarchical levels

Assessment method:	% of the final grade	Minimal requirements for award of credits
Written exam	40%	obtain at least 50% of the score for the final exam by acquiring knowledge of Chapters: 1.2, 2.1., 3.1, 3.3, 4.1, 4.3, 4.4, 5.1
Report / project	-	-
Homework		-
Laboratory	45%	- participation to all laboratory works, understanding and knowledge acquisition for each work done in laboratory
Other – verification test	15%	minimal knowledge acquisition for indicated chapters

References:

1. Ileana Rau, Simona Popescu *General Chemistry*, Editura Printech, 2009, ISBN 978-606-521-240-4
2. BelarisaPopescu, Daniela Ionita, *Chimie generala*, Ed. Matrix 2005;
3. Cristian Pirvu, *Chimie general - noţiuni fundamentale*, Ed. Printech, 2009
4. Ioana Demetrescu, Stefan Perisanu, Simona Popescu, *Experiments of General Chemistry*, Editura Politehnica Press, 2009, ISBN 978-606-515-013-3

Optional references:

1. B. Popescu, I. Demetrescu: *Chimie Generala*, Ed Bren 1999.
2. P.W. Atkins, *Tratat de Chimie Fizica*, Ed. Agir, 2005;
3. E.Jurconi, B.Popescu, C.Nicolescu, D.Ionescu, *Probleme de Chimie generala*, Ed.Printech 2000.

Prerequisites:	***Co-requisites*** ***(courses to be taken in parallel as a condition for enrolment):***
-	-

Additional relevant information:

Presentation of this course will combine traditional methods with multimedia presentation (video, e-learning platform Moodle.

Date: 10.07.2016
Lecturer Simona POPESCU